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Lv

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(54) **ROCKING KEY BUTTON ASSEMBLY AND ELECTRONIC DEVICE USING THE SAME**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,045,650 A \* 8/1977 Nestor ..... 200/556

5,508,479 A \* 4/1996 Schooley ..... 200/5 R  
5,934,453 A \* 8/1999 Sugawara et al. .... 200/339  
6,114,637 A \* 9/2000 Nakao et al. .... 200/5 R  
6,239,726 B1 \* 5/2001 Saida ..... 340/999  
6,617,535 B2 \* 9/2003 Lacroix ..... 200/339  
7,094,983 B2 \* 8/2006 Tsunemoto ..... 200/339  
7,138,583 B2 \* 11/2006 Wallace ..... 174/260  
7,217,898 B2 \* 5/2007 Chien et al. .... 200/339  
7,285,740 B2 \* 10/2007 Nakajima ..... 200/339  
7,426,338 B2 \* 9/2008 Matsumoto et al. .... 396/25

\* cited by examiner

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(57) **ABSTRACT**

An electronic device (20) includes a housing (24) and a rocking key button assembly (200) rockingly assembled to the housing. The housing includes a shaft portion (264) and a blocking board (268). The key button assembly includes a key button (30) having two opposite key portions (312), two elastic retaining members (40), two elastic arms (50) and two triggers (60). The elastic retaining members are retained to the shaft portion. The elastic arms resist against the blocking board. The key portions can rock relative to each other and about the shaft portion, the corresponding one trigger swings relative to the other trigger and about the shaft portion. The corresponding elastic arm is compressed by the blocking board. The elastic retaining members, the elastic arms and the triggers are arranged at the same side of the key button opposite to the two keys.

**13 Claims, 4 Drawing Sheets**

